

New Claims

1. A transdermal therapeutic system for administering a calcium antagonist of the dihydropyridine type which comprises
- (a) a backing layer, which defines the upper surface of the device,
 - (b) a drug reservoir containing a solution comprising
 - a calcium antagonist of the dihydropyridine type,
 - an alcohol selected from the group consisting of ethanol, propanol, isopropanol and n-decyl alcohol,
 - a pyrrolidone derivative, and
 - a saturated or unsaturated fatty acid ester of a carboxylic acid containing 8 – 16 carbon atoms and a polyhydroxy alcohol,
 - (c) a membrane to control the release of the active ingredient, and
 - (d) a pressure sensitive adhesive layer for attaching the system to the skin and, if necessary, a release liner on the outer face of the adhesive layer wherein the said backing layer and said membrane are connected together to form the drug reservoir.
2. A transdermal therapeutic system as claimed in claim 1 wherein the solution in the drug reservoir comprises a calcium antagonist of the dihydropyridine type, ethanol, N-methyl-2-pyrrolidinone and sorbitan palminate.
3. A transdermal therapeutic system as claimed in claim 2 wherein the solution comprises a calcium antagonist of the dihydropyridine type 3 - 5 %, ethanol 30 - 40 %, sorbitan palmitate 3 - 5 % and N-methyl-2-pyrrolidinone 50 - 60 % by weight of the total solution.
4. A transdermal therapeutic system as claimed in any of claims 1 to 3 in the form of skin patch.
5. A transdermal therapeutic system as claimed in any of claims 1 to 4 in which the calcium antagonist of the dihydropyridine type is selected from the group consisting of amlodipine, felodipine, isradipine, lacidipine, nicardipine, nifedipine, nilvadipine, nimodipine, nisoldipine, and nitrendipine.

Page 10 (replacement sheet)

6. A transdermal therapeutic system as claimed in any of claims 1 to 5 in which the calcium antagonist of the dihydropyridine type is lacidipine.
7. A transdermal therapeutic system as claimed in any of claims 1 to 5 in which the calcium antagonist of the dihydropyridine type is nifedipine.
8. The use of a calcium antagonist of the dihydropyridine type for the manufacture of a transdermal therapeutic system as claimed in any of claims 1 to 7 for administration of a calcium antagonist of the dihydropyridine type through a pre-determined area of intact skin for the treatment of cardiovascular disorders including hypertension.
9. A method for administering a calcium antagonist of the dihydropyridine type through a pre-determined area of intact skin and at an administration rate such as to reach and maintain an effective therapeutic dose of a calcium antagonist of the dihydropyridine type for the control of hypertension and other cardiovascular diseases which comprises applying to the skin a transdermal therapeutic system as claimed in any of claims 1 to 7.
10. A solution which is suitable for use in a transdermal therapeutic system as claimed in any of claims 1 to 7 which comprises
a drug reservoir containing a solution comprising
- a calcium antagonist of the dihydropyridine type,
 - an alcohol selected from the group consisting of ethanol, propanol, isopropanol and n-decyl alcohol,
 - a pyrrolidone derivative, and
 - a saturated or unsaturated fatty acid ester of a carboxylic acid containing 8 – 16 carbon atoms and a polyhydroxy alcohol.
11. A solution as claimed in claim 10 which comprises a calcium antagonist of the dihydropyridine type, ethanol, N-methyl-2-pyrrolidinone and sorbitan palmitate.

12. A method of treating hypertension which comprises administering an effective amount of a calcium antagonist of the dihydropyridine type in a transdermal therapeutic system as claimed in any of claims 1 to 7.

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